

1 **DIRECT TESTIMONY OF**

2 **THOMAS D. GATLIN**

3 **ON BEHALF OF**

4 **SOUTH CAROLINA ELECTRIC & GAS COMPANY**

5 **DOCKET NO. 2009-2-E**

6  
7 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION**  
8 **WITHIN SOUTH CAROLINA ELECTRIC & GAS COMPANY (“SCE&G”**  
9 **OR “COMPANY”).**

10 A. My name is Thomas D. Gatlin. My business address is P.O. Box 88,  
11 Jenkinsville, South Carolina. I am employed by SCE&G as the General Manager  
12 of Nuclear Operations at the Virgil C. Summer Nuclear Station (“VCSNS” or “VC  
13 Summer”).

14 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
15 **PROFESSIONAL EXPERIENCE.**

16 A. I received a Bachelor of Science degree in Electrical Engineering from  
17 Christian Brothers University (Memphis, TN) in 1980. I have been a licensed,  
18 professional electrical engineer in South Carolina since 1984, and obtained a  
19 Senior Reactor Operator license at VCSNS in 1985.

1 I have been the plant manager at VC Summer for over four years. I was the  
2 operations manager for three years prior to my current assignment, and have  
3 served in various roles in the operations, engineering, and maintenance  
4 departments since joining the company in 1982. I also worked at the Tennessee  
5 Valley Authority (TVA) for two years in the nuclear instrumentation division prior  
6 to working for SCE&G.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. The purpose of my testimony is to review the operating performance of  
9 VCSNS during the period from February 1, 2008 through December 31, 2008  
10 (“Review Period”).

11 **Q. WHAT ARE YOUR OBJECTIVES IN THE OPERATION OF VCSNS?**

12 A. SCE&G’s primary objective at VCSNS is always safe operation. The  
13 Company also strives for excellence in all phases of operation of the facility. The  
14 station’s key focus areas of SAFETY, reliability, outage and work management,  
15 work force development, and organizational effectiveness constitute our core  
16 business plan elements. SCE&G’s constant improvement in these areas over the  
17 years has facilitated VCSNS’s outstanding service record. Furthermore, our  
18 business objectives are focused on maintaining a competitive production cost for  
19 the generation of electricity using nuclear fuel.

1 **Q. WHAT HAS BEEN THE COMPANY’S EXPERIENCE WITH THE**  
2 **PERFORMANCE OF VCSNS?**

3 A. SCE&G continuously meets or exceeds all Nuclear Regulatory  
4 Commission (“NRC”) requirements and Institute of Nuclear Power Operations  
5 (“INPO”) standards. VCSNS has performed well during the Review Period.  
6 Consistent with the provisions of Section 58-27-865 of the South Carolina Code of  
7 Laws, as amended, VC Summer’s net capacity factor based on reasonable  
8 excludable nuclear system reductions during the Review Period was 101.6% and  
9 the gross generation output was 6,621,110 megawatt hours.

10 **Q. DID VCSNS EXPERIENCE ANY OUTAGES DURING THE REVIEW**  
11 **PERIOD?**

12 A. Yes. During the Review Period, VCSNS experienced one outage. On  
13 April 25, 2008, the unit was shut down for forty-nine (49) days to conduct VC  
14 Summer’s 18th scheduled refueling outage (“RF18”). During this outage, the  
15 Company met all technical objectives and completed scheduled maintenance  
16 activities. The reactor returned to criticality on June 13, 2008, and the forty-nine  
17 (49) day outage ended with the closure of the generator breaker on June 14, 2008.  
18 The planned scheduled of thirty-eight (38) days was exceeded by eleven (11) days  
19 due to a series of emergent maintenance activities which took longer than expected

1 to complete. Even though the outage lasted longer than expected, the outage was  
2 completed under budget with no nuclear safety events.

3 **Q. PLEASE BRIEFLY EXPLAIN THE WORK SCE&G ACCOMPLISHED**  
4 **DURING THE REFUELING OUTAGE.**

5 During the refueling outage, approximately one-third of VC Summer  
6 station's 157 fuel assemblies were replaced, and scheduled maintenance work that  
7 cannot be performed when the plant is in operation was conducted. During this  
8 time, over 3,000 routine tasks including preventative maintenance, corrective  
9 maintenance, and surveillance testing tasks were completed successfully. More  
10 specifically, SCE&G accomplished the following major tasks:

- 11 • **Weld Overlay of the Nozzles of the Reactor Coolant System**  
12 **Pressurizer.** Robotic application of six large welds to reinforce  
13 existing welds. This task was completed ahead of schedule.
- 14 • **Replacement of the Main Flange Gasket and Pump Seals on "C"**  
15 **Reactor Coolant Pump.** Rework of one of the three main reactor  
16 coolant system pumps. The task required pulling the pump from the  
17 casing and reworking the flange surface to improve the seat finish.  
18 The pump was returned to service with no issues.
- 19 • **Upgrade of two Feedwater Booster Pump Seals.** Installed new  
20 pump seals in two of our four pumps to address a reliability

1 challenge from the previous cycle. The new seal design is much  
2 easier to install and has performed well.

3 **Q. PLEASE BRIEFLY EXPLAIN WHY RF18 LASTED LONGER THAN**  
4 **EXPECTED.**

5 A. No single event caused RF18 to last longer than expected. Rather, it was a  
6 series of events, as described below, that caused the refueling outage to be  
7 extended.

- 8 • During the refueling outage SCE&G planned to improve station  
9 reliability by upgrading the speed control governor for one of its  
10 emergency diesel generators. After the new governor was installed,  
11 SCE&G was required to tune the equipment to meet stringent design  
12 requirements. Contrary to industry experience, the tuning of the  
13 governor proved to be very difficult and took approximately 73  
14 hours longer than expected to complete.
- 15 • In accordance with commitments to the NRC, the Company installed  
16 two new valves in VCSNS's service water system which is used to  
17 cool the reactor containment building. During post installation  
18 testing it was discovered that the valves, as provided by the vendor,  
19 did not meet certification standards. As a result, the values were

redesigned and retested by VC Summer personnel. This event caused the outage to be extended by approximately 78 hours.

- During an inspection, one of the valves that provides cooling during postulated accident conditions was determined to be deficient in its performance. To repair the valve, SCE&G disassembled the valve completely. The Company could not restart the plant until the valve was repaired and retested, which took approximately 65 more hours than planned.

- VC Summer employs a digital display system to provide indication of the position of the control rods used to control the reactor. During testing, SCE&G discovered that the system was not functioning properly. To resolve the issue, the Company removed the display from the control room, which is a time-consuming task. After the display was removed from the control room, repairs were made and the system retested. This event caused the outage to be extended by approximately 76 hours.

**Q. DID VCSNS EXPERIENCE ANY OTHER OUTAGES DURING THE REVIEW PERIOD?**

**A.** No.

1   **Q.   WHEN WILL THE NEXT REFUELING OUTAGE OCCUR?**

2   A.           Refueling outages are scheduled every 18 months to replace depleted fuel  
3               assemblies. Simultaneously, maintenance and testing that cannot be done with the  
4               plant on-line is conducted. SCE&G's next refueling outage will be Refueling  
5               Outage No. 19 scheduled for October 2009.

6   **Q.   PLEASE EXPLAIN THE ROLES OF INPO AND THE NRC WITHIN THE**  
7               **NUCLEAR INDUSTRY AND DESCRIBE ANY RANKINGS RECEIVED**  
8               **BY VCSNS FROM THOSE AGENCIES.**

9   A.           INPO is a nonprofit corporation established by the nuclear industry to  
10               promote the highest levels of nuclear safety and plant reliability. INPO promotes  
11               excellence in the industry in the operation of nuclear electric generating plants.  
12               For the applicable reporting period, INPO rated VCSNS's overall performance as  
13               exemplary which is the highest rating awarded.

14               The NRC is responsible for the licensing and oversight of the civilian use  
15               of nuclear materials in the United States. The NRC has reported that VCSNS  
16               operated in a manner that preserved public health and safety and fully met all  
17               cornerstone objectives. During the reporting period, the NRC implemented no  
18               supplemental inspections beyond the base inspection scope.

1   **Q.   WHAT IS THE SPENT FUEL STORAGE CAPABILITY FOR THE**  
2       **STATION AND WHAT IS THE PLAN FOR DEVELOPMENT OF A DRY**  
3       **FUEL STORAGE FACILITY?**

4   A.       The station has sufficient capacity for spent fuel storage in the spent fuel  
5       pool through the 23rd refueling outage in 2017. This allows capacity for a full  
6       core off-load in addition to the spent fuel stored in the pool. The plant is already  
7       developing plans for the construction of a dry fuel storage facility that will need to  
8       be in service by 2015.

9   **Q.   DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

10 A.       Yes.